

SECTION - C

Attempt any three questions. Each question carries equal marks. $5 \times 5 = 25$

- 3 Why heat treatment of carbon steel is required? Give the elementary idea of various annealing operations.
- 4 Differentiate between hot and cold working of metals. Classify the metal forming operations and mention their specific applications.
- 5 Why the pattern is different from casting? Describe with neat sketch, the design steps in casting process. What is the function of core in casting?
- 6 With the help of schematic sketch, describe the basic working principle of milling machine. Differentiate between up milling and down milling.
- 7 How will you classify the welding processes? Explain with suitable applications, the working principle of resistance welding.
- 8 Discuss the role and importance of materials and manufacturing for the growth of any nation. Explain with suitable examples, the types of production.



Printed Pages : 4

EME - 101 / EME - 201

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 4304

Roll No.

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B. Tech.

(SEM. II) EXAMINATION, 2008-09

MANUFACTURING PROCESSES

Time : 2 Hours [Total Marks : 50]

Note : Be Precise and scientific in writing.

SECTION - A

Attempt all the questions : $10 \times 1 = 10$

- 1 This section contains 10 questions (true/false, objective/ fill in the blanks types). Choose/Fill the correct answer :
 - (1) The castability of Al is very poor. (True/False)
 - (2) The machinability of Nickel and Steel is good. (True/False)
 - (3) Hot working is carried out below the recrystallization temperature. (True/False)
 - (4) Name the **two** defects in metal formed product.
 - (5) Fatigue failure occurs when a part is subjected to (i) compressive stress (ii) tensile stress (iii) fluctuating stress, (iv) uniform stress.



SECTION - B

Attempt any three questions. All questions carry equal marks :

3×5=15

2 (a) Explain the following terms :

(i) Strength

(ii) Toughness

(iii) Fatigue

(iv) Malleability.

(b) Classify the carbon steel based on the percentage of carbon as low, mild, medium and high carbon steel. Write their properties and applications.

(c) Explain with neat sketch, the basic working principle of extrusion. Describe its applications in industry. Name the four extruded products.

(d) With help of neat sketch, explain the basic components of shaper machine and various operations performed on it.

(e) With the help of neat sketch, define the following operations :

(i) Forging

(ii) Rolling

(iii) Taper turning

(iv) Galvanizing.



(6) Press working of metal is a (i) Machining process (ii) Welding process (iii) Joining process (iv) Metal forming process.

(7) Core is used to produce _____ in casting.

(8) Allowance provided on surfaces parallel to direction of withdrawn in casting is known _____.

(9) In compound rest method of taper turning, compound rest is swilled by the angle :

(i) $\tan \alpha = \frac{d_1 - d_2}{l}$

(ii) $\tan \alpha = \frac{d_1 - d_2}{2l}$

(iii) $\tan \alpha = L \times \frac{d_1 - d_2}{l}$

(iv) $\tan \alpha = \frac{d_1 - d_2}{2}$

(10) Match the following :

- | | |
|-------------------------|-------------|
| (i) Hard wood | (a) Glass |
| (ii) Ceramic | (b) Deodar |
| (iii) Soft wood | (c) Shisham |
| (iv) Composite material | (d) Tufnol |

